



# SPEC® CINT2006 Result

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## Acer Incorporated

### SPECint®\_rate2006 = 79.7

## Acer Altos R720 (Intel Xeon X5470)

### SPECint\_rate\_base2006 = 73.7

CPU2006 license: 97

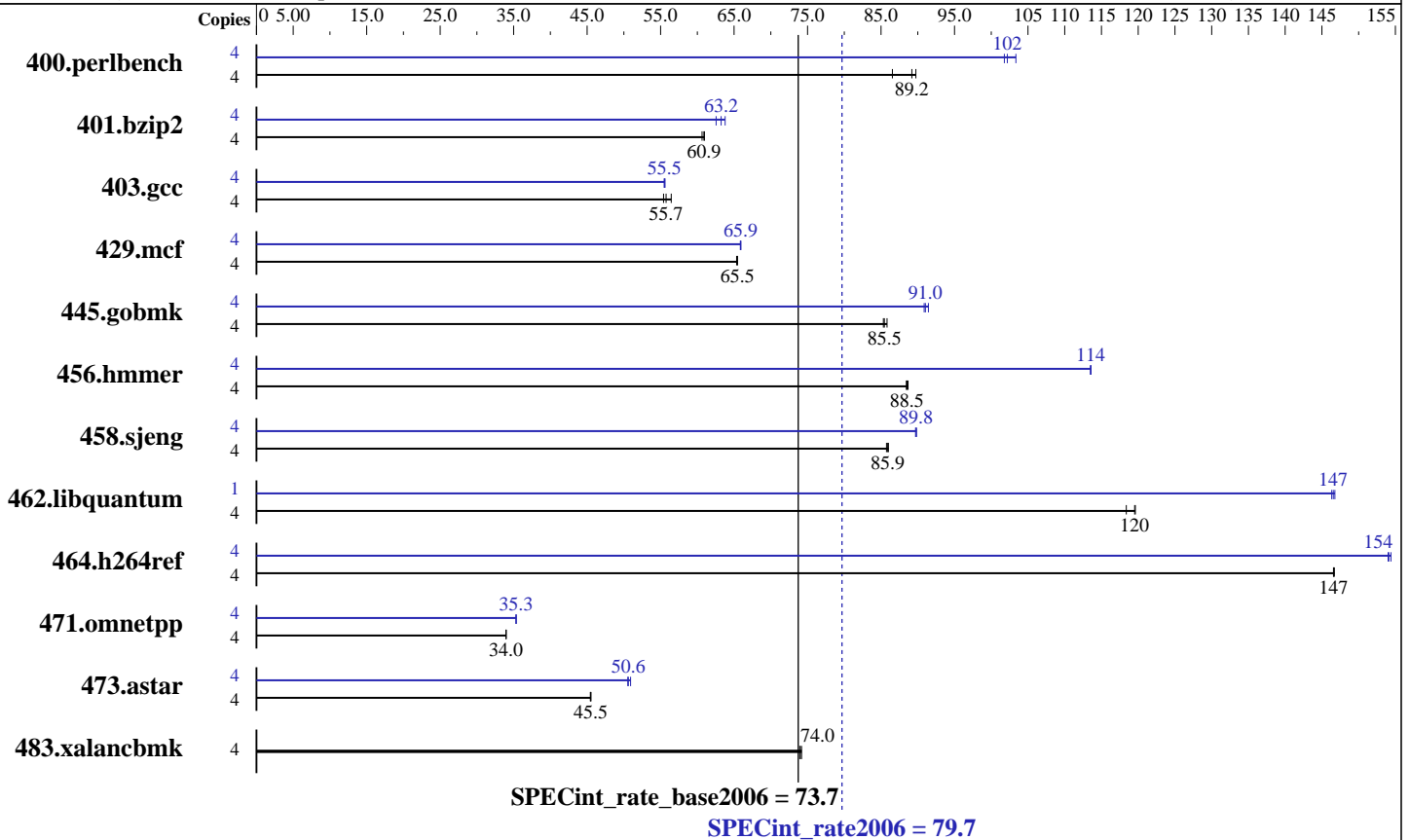
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5470  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 x 2048MB ECC FB-DIMM DDR2-667 CL5-5-5)  
 Disk Subsystem: 1 x 73GB 10K RPM SAS HDD  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	452	86.5	<b>438</b>	<b>89.2</b>	435	89.7	4	<b>382</b>	<b>102</b>	384	102	378	103
401.bzip2	4	<b>634</b>	<b>60.9</b>	633	61.0	637	60.6	4	605	63.8	<b>610</b>	<b>63.2</b>	617	62.6
403.gcc	4	581	55.4	570	56.4	<b>578</b>	<b>55.7</b>	4	<b>580</b>	<b>55.5</b>	579	55.6	580	55.5
429.mcf	4	<b>557</b>	<b>65.5</b>	557	65.5	558	65.3	4	553	65.9	<b>554</b>	<b>65.9</b>	554	65.8
445.gobmk	4	<b>491</b>	<b>85.5</b>	489	85.8	492	85.3	4	459	91.4	462	90.9	<b>461</b>	<b>91.0</b>
456.hammer	4	421	88.7	<b>422</b>	<b>88.5</b>	422	88.4	4	<b>329</b>	<b>114</b>	329	113	329	114
458.sjeng	4	564	85.7	<b>563</b>	<b>85.9</b>	563	86.0	4	<b>539</b>	<b>89.8</b>	540	89.7	539	89.8
462.libquantum	4	<b>693</b>	<b>120</b>	693	120	700	118	1	141	147	<b>141</b>	<b>147</b>	142	146
464.h264ref	4	604	147	<b>604</b>	<b>147</b>	603	147	4	573	154	575	154	<b>574</b>	<b>154</b>
471.omnetpp	4	736	34.0	736	34.0	<b>736</b>	<b>34.0</b>	4	<b>708</b>	<b>35.3</b>	708	35.3	707	35.4
473.astar	4	<b>617</b>	<b>45.5</b>	618	45.4	617	45.5	4	556	50.5	551	50.9	<b>555</b>	<b>50.6</b>
483.xalancbmk	4	373	73.9	<b>373</b>	<b>74.0</b>	372	74.2	4	373	73.9	<b>373</b>	<b>74.0</b>	372	74.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.

## Platform Notes

BIOS Settings

Adjacent Cache Line Prefetch set to OFF

Hardware Prefetch set to ON

Optimization for high-frequency FSB applications set to ON

## General Notes

taskset was used to bind processes to cores except for 462.libquantum peak

OMP\_NUM\_THREADS set to number of processors

KMP\_AFFINITY set to "physical,0"

KMP\_STACKSIZE set to 64M

'ulimit -s unlimited' was set for stacksize unlimited

This result was measured on the Acer Altos R520.

The Altos R720 and Altos R520 are electronically equivalent.

## Base Compiler Invocation

C benchmarks:

icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /opt/intel/Compiler/11.0/066/bin/intel64/icc  
456.hmmer: /opt/intel/Compiler/11.0/066/bin/intel64/icc

C++ benchmarks:  
icpc



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
 401.bzip2: -DSPEC\_CPU\_LP64  
 456.hmmer: -DSPEC\_CPU\_LP64  
 462.libquantum: -DSPEC\_CPU\_LINUX  
 483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
 -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
 -no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -unroll4

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
 -opt-malloc-options=3 -parallel -par-runtime-control  
 -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=block  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.04.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.04.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.00.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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